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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/803,878

03/19/2004

Hideyuki Hashi

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08/07/2006

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EXAMINER

KLIMOWICZ, WILLIAM JOSEPH

ART UNIT

PAPER NUMBER

2627

DATE MAILED: 08/07/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/803,878

Applicant(s)

HASHI ET AL.

Examiner

William J. Klimowicz

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 20 August 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 27-56 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 27,28,35-53 and 56 is/are rejected.
- 7) ☒ Claim(s) 29-34,54 and 55 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 20 August 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Priority

Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

Drawings

The drawings were received on August 20, 2004. These drawings are approved.

Substitute Specification

The substitute specification filed on August 20, 2004 has been entered, since it is in full compliance with 37 CFR 1.125.

Claim Status

Claims 1-26 were cancelled in a preliminary amendment filed on August 20, 2004.

New claims 27-56 presented in the amendment filed on August 20, 2004, are currently pending.

Claim Objections

Claims 29, 52 and 54-56 are objected to because of the following informalities:

With regard to claim 29 (line 4), the word "sad" should be changed to the word --said--.

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With regard to claim 52 (line 3), the word --about-- should be inserted before the word --an--.

With regard to claims 54-56, the preamble phrase “the head support device” should be changed to the preamble phrase --The disk drive-- in order to remain consistent with the preceding claim preamble.

Appropriate correction is required.

Claims 40 and 47 are objected to because of the following informalities and appropriate correction is required.

The following phrase(s) lack clear antecedent basis within the claim(s), i.e., either the particularly recited passage fails to be properly introduced prior to its appearance at that point in the claim or the structure recited in the passage is not an inherent part of or component of the previously recited structure. The lack of antecedence as noted *infra*, is merely formal, since the claims can be understood in light of the instant specification and drawings; the antecedence informalities delineated below do not rise to the level of a rejection under 35 USC 112 2nd paragraph:

(i) Claim 40 (line 2), “said slit of said support arm.”

(ii) Claim 47 (line 2), “said slit of said support arm.”

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

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(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 27, 28, 35-38, 40-45, 47-53 and 56 are rejected under 35 U.S.C. 102(b) as being anticipated by Berding (US 5,936,803).

As per claims 27 and 52, Berding (US 5,936,803) discloses a head support device for supporting a read and/or write head (mounted to slider (140)) for recording information on and/or reproducing information from a recording medium (12) that rotates around an axis of rotation of the recording medium (12) (see Figure 1), said head support device comprising: a base arm (110) adapted to be pivotable about a first axis (i.e., about actuator axis associated with the conventional bearing cartridge as see in Figure 1) that is parallel to and spaced apart from the axis of rotation of the recording medium (12); a support arm (120) coupled to said base arm (110) and adapted to be pivotable about the first axis together with said base arm (110); a flexure (130) fixed to said support arm (120); a slider (140) to which the head is to be mounted, said slider (140) being mounted to said flexure (130) at said first end of said support arm (120) (distal end); and a spring member (e.g., 150) coupling said support arm (120) to said base arm (110) for applying a thrust force to the head via said support arm (120) and said flexure (130), said spring member (150) having lower rigidity than said support arm (120); wherein a pivot fulcrum arrangement (e.g., 170 and/or the structural correspondence hinge (550) as seen in the conceptual drawing of Figure 2) is provided to pivotally mount said support arm (120) for pivoting about a second axis (A-axis) relative to said base arm (110), said second axis (A-axis) being perpendicular to said first axis (*cf.* Figures 3 and 1).

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Additionally, as per claim 52, Berding (US 5,936,803) further discloses a disk drive (Figure 1) comprising: a recording medium (12); rotation driving means (13) for rotating said recording medium (12) an axis of rotation of the recording medium (12 - see Figure 1.

As per claims 28 and 53, wherein said flexure (130) is fixed to said support arm (120) "in the vicinity" of said pivot fulcrum (170/550).

As per claims 35 and 56, wherein said spring member (150) has a hole (e.g., 171) and a slit part (U-shaped slit as seen in Figure 12) formed therein.

As per claim 36, wherein said hole (171) and said slit part (U-shaped slit as seen in Figure 12) of said spring member (150) are connected to each other (via intervening pivoting fulcrum (170)).

As per claims 37 and 44, wherein said hole (171) is symmetric with respect to a centerline of said support arm (120) - see Figure 12.

As per claims 38 and 45, wherein said hole (171) of said spring member (150) is formed as one of a circle, an ellipse and a polygon (rectangle) - see Figure 12.

As per claims 40 and 47, wherein a slit of said support arm (u-shaped slit as seen, e.g. in Figure 12) and said slit part of said spring member are aligned with each other along a centerline of said support arm (120) at a junction between said support arm (120) and said spring member (150). That is, the slit of said support arm (u-shaped slit as seen, e.g. in Figure 12) and the slit part of said spring member (also the u-shaped slit as seen, e.g. in Figure 12) are one and the same, and hence are aligned.

As per claims 41 and 48, wherein said spring member (150) is formed integrally with said support arm (120).

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As per claims 42 and 49, wherein said slit part (u-shaped slit as seen, e.g. in Figure 12) of said spring member (120) is symmetric with respect to a centerline of said support arm (120) - see Figure 12.

As per claim 43, wherein said hole (171) is provided in a center of said spring member (150) - see Figure 12.

As per claim 50, wherein said support arm (120) is provided with a balancer (164) for balancing the thrust force of said spring member (150) about a bearing (pivot bearing); and a resultant center of gravity of respective centers of gravity of said flexure (130) provided with said slider (140), a pivot section of said support arm and said balancer (164) acts in a direction passing through said second axis (A-axis).

As per claim 51, wherein said pivot fulcrum arrangement comprises a pair of pivot fulcrums (170, 170 or 550, 550); and said second axis (A-axis) passes through vertexes of said pivot fulcrums.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 39 and 46 are rejected under 35 U.S.C. 103(a) as being unpatentable over Berding (US 5,936,803).

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See the description of Berding (US 5,936,803), *supra*.

As per claims 39 and 46. although Berding (US 5,936,803) discloses wherein the hole (171) appears to be a rectangle, and not a square (a square is a rhombus), given the express teachings and motivations, as espoused by Berding (US 5,936,803), it would have been obvious to one of ordinary skill in the art at the time the invention was made to provide the hole (171) of Berding (US 5,936,803) as being a rhombus (e.g., a square) in lieu of an apparent rectangle.

The rationale is as follows: given the express teachings and motivations, as espoused by Berding (US 5,936,803), it would have been obvious to one of ordinary skill in the art at the time the invention was made to provide the hole (171) of Berding (US 5,936,803) as being a rhombus (e.g., a square) in lieu of an apparent rectangle in order to tune the rigidity or flexibility of the fulcrum, e.g., by providing a square (rhombus) in lieu of a rectangle, the stiffness would necessarily increase, since the volume of material between the hole (171) and u-shaped slit increase, as would be readily recognized by a person having mere ordinary skill in the load beam art. No new or unobvious result is seen to be obtained by changing the shape of (171) from an apparent rectangle into a square (rhombus).

Allowable Subject Matter

Claims 29-34, 54 and 55 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

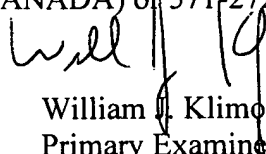
Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to William J. Klimowicz whose telephone number is (571) 272-7577. The examiner can normally be reached on Monday-Thursday (6:30AM-5:00PM).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Hoa Thi Nguyen can be reached on (571) 272-7579. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.


William J. Klimowicz
Primary Examiner
Art Unit 2627

WJK